

SUPPORT FOR THE AMENDMENT

Support for claims 9-11 is found on page 4, lines 9-13 of the specification. Support for claim 12 is found on page 15, lines 26-27 of the specification. Support for claim 13 is found on page 16, lines 1-2 of the specification. Support for claim 14 is found on page 16, lines 1-5 of the specification. Support for claim 15 is found on page 16, lines 6-7 of the specification. Support for claim 16 is found on page 16, lines 10-11 of the specification. Support for claims 17 and 18 is found page 16, lines 15-18 of the specification. Support for claim 19 is found on page 17, line 11 of the specification. Support for claim 20 is found on page 16, lines 18-21 of the specification. No new matter would be added to this application by entry of this amendment.

Upon entry of this amendment, claims 1-20 will now be active in this application.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a cleanser composition.

Applicants wish to thank examiner Boyer for the helpful and courteous discussion held with their U.S. representative on January 8, 2007. At that time, applicants' U.S. representative argued that improved foaming was observed when a branched group was contained in the phosphate ester as compared with a linear group. The following is intended to expand upon the discussion with the examiner.

Cleansing compositions based on anionic surfactants can sometimes cause skin damage. Nonionic surfactants do not typically suffer from this skin damage problem however nonionic surfactants have cleaning properties which are inferior to anionic surfactants. Phosphate-based anionic surfactants are mild to the skin but can have difficulties in water solubility and foaming properties. Accordingly, anionic surfactant based cleanser compositions which exhibit low skin irritation and good foaming properties are sought.

The claimed invention addresses this problem by providing a cleanser composition comprising phosphate monoester and phosphate diester wherein the ester component is an alkyl or alkenyl group having a branching degree of 10% or more. Applicants have discovered that a branching degree of 10% or more provides for improved foaming ability as compared with a linear alkyl group.

The rejections of claims 1-8 under 35 U.S.C. §102(e) over Cotrell et al., U.S. 6,566,408, of claims 1-5 and 7 under 35 U.S.C. §102(e) over Gonzalez et al., U.S. 6,683,033 and of claims 1, 3-6 and 8 under 35 U.S.C. §102(b) over Matsumoto et al., U.S. 6,683,033 (5,686,403) are respectfully traversed.

None of the cited prior art of record discloses or suggests an improved foaming property through use of a branched group in the phosphate ester.

Cotrell et al. merely describes a phosphate ester mixture of C₈₋₂₂ linear or branched saturated or unsaturated hydrocarbons (column 2, lines 1-19). Gonzales et al. also describe a phosphate ester based on linear or branched C₈₋₂₄ alkyl or alkenyl groups (column 5, lines 1-11). Matsumoto et al. merely describe a mixture of phosphate surfactants based on linear or branched alkyl or alkenyl groups having 8-18 carbon atoms (column 2, lines 5-26). None of the references illustrate a branched phosphate ester nor suggest an improvement in foaming ability due to the use of a branched ester.

In contrast, the claimed invention is directed to a cleanser composition comprising phosphate monoester and phosphate diester in which the R¹ group has a branching degree of 10% or more.

As evidence of the improved foaming ability through the use of a branching group, the examiner's attention is directed to the data in Table 6 on page 26 of the specification. For the examiner's convenience the data from table 6 is reproduced below:

Table 6

Component (weight %)		Products of the present invention					Comparative product								
		1	2	3	4		1	2	3	4	5	6	7	8	9
A • B	Phosphate (a b - 4)	30	30				30				30				
	Phosphate (a b - 3)							30				30			
	Phosphate (a b - 2)			30	30								30		
	Phosphate (a b - 5)								30					30	
	Phosphate (a b - 6)									30					30
C	Dipropylene glycol	5		5				5	5	5					
	Isoprene glycol		5		5										
	1, 3-Butanediol						5								
	Deionized water														
Balance															
Viscosity (mPa • s) : 0		606	590	1260	1110		2530	3180	2060	778	3240	2600	5160	5800	5880
Viscosity (mPa • s) : 2		292	230	718	690		254	908	996	202	366	870	1220	1180	334
Foaming ability		○	○	○	○		△	×	×	×	△	×	×	×	×

Phosphates ab-2, ab-4 and ab-5 have a branching degree ranging from 25-50%. Phosphate ab-6 is a linear phosphate. Comparative examples 4 and 9 containing the linear phosphate exhibited poor foaming ability.

In contrast, examples 1 and 3, compositions containing 25 and 50% branching degrees exhibited foaming abilities of 155 mL or more of foam. The examiner's attention is specifically directed to example 3 and comparative example 4 in which a direct comparison is demonstrated showing increased viscosity and better foaming for a branched phosphate v. a linear phosphate. The comparative examples have a degree of foaming of 145 mL of foam or less. Thus, through selection of a branched group on the phosphate ester, applicants observe an unexpected improvement in foaming. Such an improvement in foaming is nowhere disclosed or suggested in the cited prior art of record. As the cited references fail to suggest such increased foaming ability through selection of a branched group in the phosphate ester, the claimed invention is clearly neither anticipated nor rendered obvious from these references and accordingly withdrawal of the rejections under 35 U.S.C. §102(e) and (b) is respectfully requested.

Applicants submit this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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